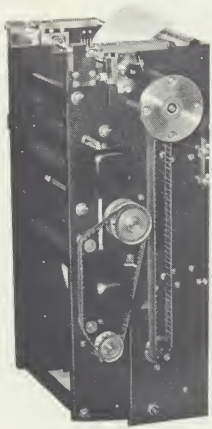




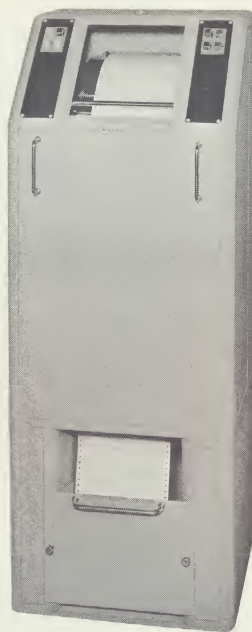
# **DATAMARK, INC.**

## **HIGH SPEED LINE PRINTERS AND PRINTER SYSTEMS**

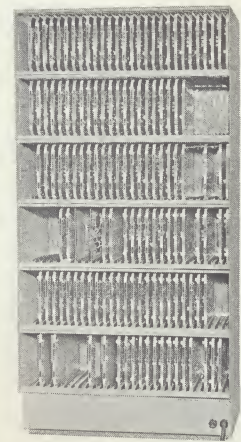
For  
Data Processing  
Digital Communications  
Listing  
Military Systems



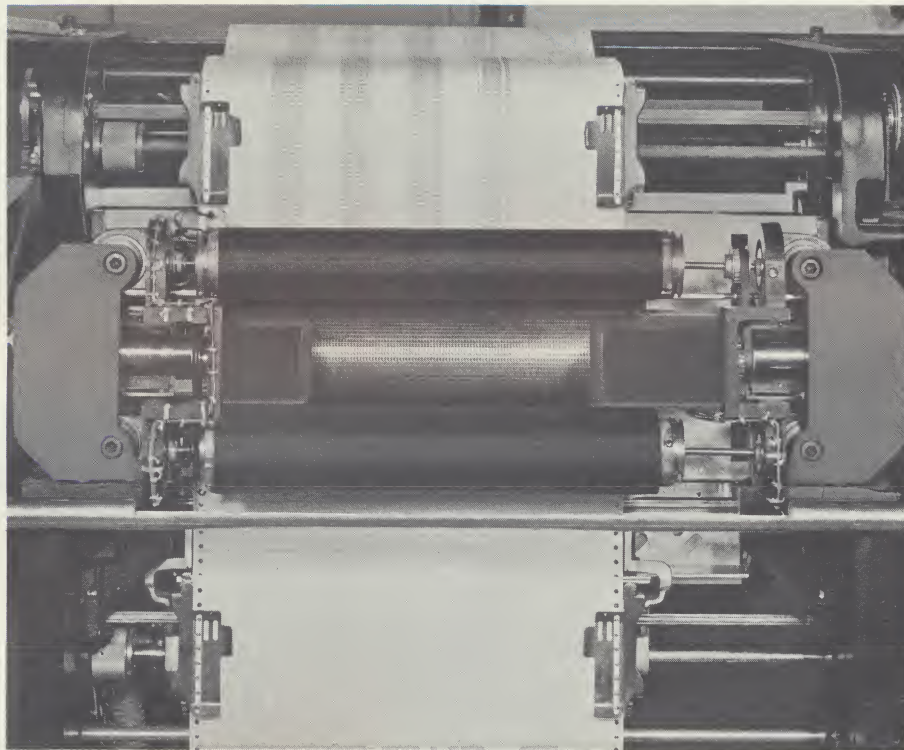
PRINTER SIDE VIEW



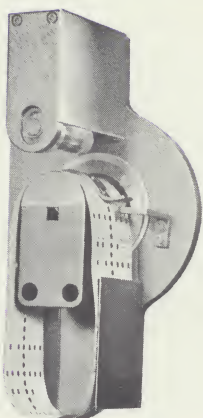
MILITARY 80 COLUMN PRINTER



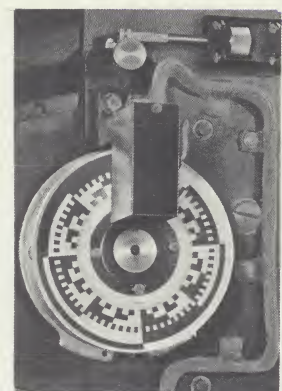
TYPICAL LOGIC RACK



160 COLUMN LINE PRINTER



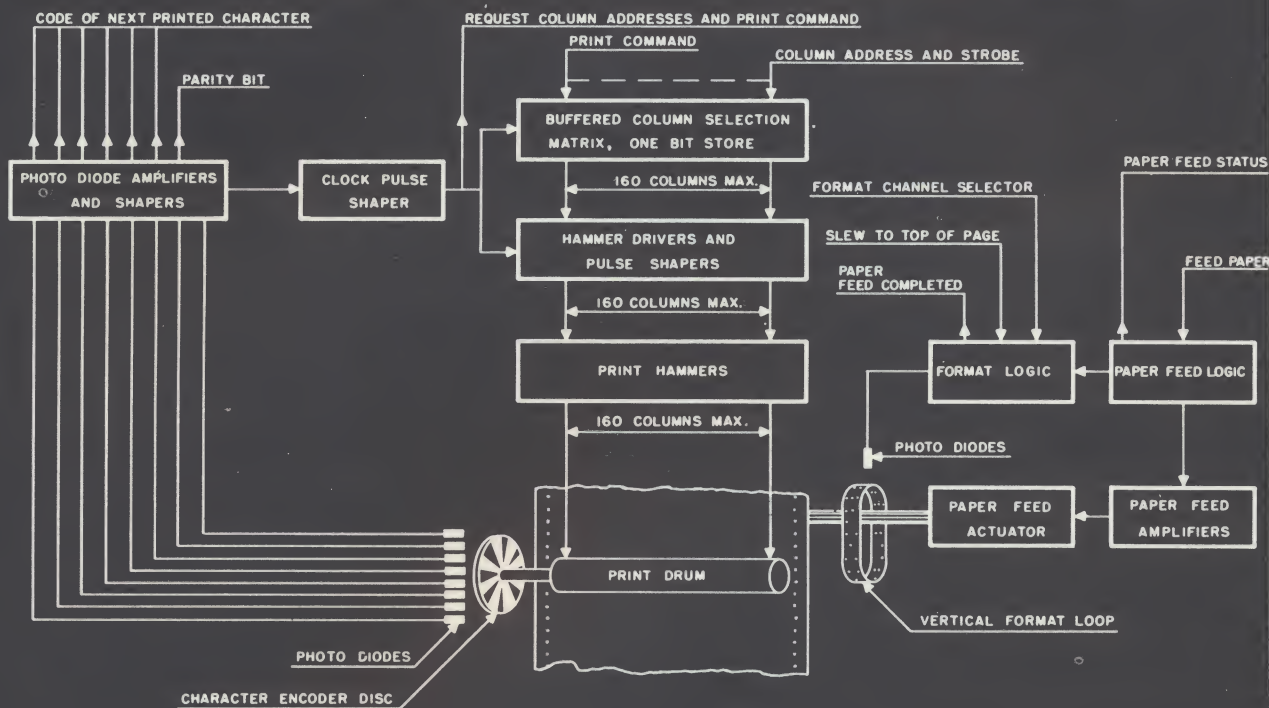
VERTICAL FORMAT LOOP



DRUM SHAFT  
ENCODER ASSEMBLY



## UNBUFFERED PRINTER BLOCK DIAGRAM, FULL CROSS CONTROL



## TYPICAL UNBUFFERED PRINTER SYSTEM

If the data source's programming and storage capabilities permit it to perform some of the logical operations associated with the print cycle and line storage, an unbuffered printer may be used. A typical interface for such a system is shown above.

Overall system logical requirements are, of course, identical to those described in the buffered version. The inter-communication requirements between the data source and the interface are now specified. The printer interface emits a "request column address and print command" signal to initiate an external comparison cycle of the output of the PHOTODIODE AMPLIFIERS AND SHAPERS against the contents of the external line storage register. A "print command" should be sent to the printer interface with the column address of the compared column if a character equality is detected. As in the buffered printer version, the coincidence of an equality (or "print command") and the "column address" sets the 1 BIT STORE in the column identified by the "column address." The properly timed output of the CLOCK PULSE SHAPER resets all 1 BIT STORES and initiates a hammer firing pulse in the selected column. The latter operations as well as the paper feed are executed by the printer and are identical to the logic performed in the BUFFERED PRINTER.

## RELIABILITY

DATAMARK, INC. maintains a continuing program of evaluation of basic printer mechanisms used in its product line.

Most critical among these items are the following basic subassemblies:

**Print Hammers** — in a controlled experiment have performed 150 million cycles with timing accuracy of 10 microseconds, and have performed in excess of 300 million cycles without significant wear or failure.

**Paper Feed** — system has performed 250 million continuous cycles without replacement of parts, belts, or bearings, but required adjustment of a preventative maintenance nature after 180 million cycles.

**Ribbon Feed** — mechanism has performed 120,000 reversals (wind-up and pay-out cycles) without malfunction, and uses standard ribbon spools. This mechanism can feed silk and nylon ribbons with excellent performance.



**DATAMARK, INC.**

*your requirements*

## GENERAL

|                    |                                                                                                                                                                                                                        |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRINT RATE         | 300, 600 and 1000 lines/min alphanumeric,<br>1200 lines/min numeric—standard<br>Higher or lower speeds available on special order.                                                                                     |
| CHARACTERS         | Up to 64 characters standard. More on special order.                                                                                                                                                                   |
| CODING             | Customer's option—or Cobol, Fortran, Field Data, etc.                                                                                                                                                                  |
| LOGIC LEVELS       | To customer's specifications.                                                                                                                                                                                          |
| HORIZONTAL SPACING | 10 per inch standard, other spacing available on<br>special order.                                                                                                                                                     |
| COLUMNS            | Up to 80 and 160 columns in two frame sizes.                                                                                                                                                                           |
| FORM WIDTH         | 4 $\frac{3}{16}$ to 17 $\frac{25}{32}$ standard. Wider units on special order.                                                                                                                                         |
| RIBBON             | Commercially available standard—nylon or silk.                                                                                                                                                                         |
| PAPER              | Choice of plain or preprinted forms, single or<br>multiple carbons, card stock, pressure sensitive<br>or transfer masters.                                                                                             |
| SIZE               | A variety of packaging schemes are available with<br>separate or integrated mechanical and electronic sec-<br>tions. Tightly packaged shipboard, trailer, or aircraft<br>mounted equipment available on special order. |

## PAPER FEED

|                  |                                                                                                                                                                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VERTICAL SPACING | 6 lines/inch standard, 8 lines/inch optional.                                                                                                                                                                                                                               |
| PAPER SLEW RATE  | 25"/sec. nom. or 8600 lines/min.<br>25'/sec. and 50'/sec. combination optional.                                                                                                                                                                                             |
| SINGLE LINE SKIP | 15 millisec., nominal.                                                                                                                                                                                                                                                      |
| DOUBLE LINE SKIP | 22 millisec., nominal.                                                                                                                                                                                                                                                      |
| VERTICAL FORMAT  | Photoelectric format loop with absolute format con-<br>trol. Uses commercially available carriage control<br>tape. Rectangular holes are spaced 6/inch vertically.<br>Low cost hand punch available. Channels selected<br>manually or remotely to customer's specification. |

## CONTROLS AND FEATURES

|                                                         |                                                                                                                                                              |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRINT DENSITY                                           | To accommodate varying paper thickness and<br>ribbon inking grades.                                                                                          |
| PRINT LINE PHASING                                      | To adjust vertical register on preprinted forms.                                                                                                             |
| HORIZONTAL PHASING                                      | Paper tractor adjustments to control horizontal<br>print register, and set left and right margins.                                                           |
| PAPER TENSION                                           | Self-compensating adjustment to maintain paper<br>tension between upper and lower tractors, and provide<br>for changes in paper length due to humidity, etc. |
| TEST                                                    | Optional self-test feature requiring no external<br>data input.                                                                                              |
| SLEW                                                    | Advances paper while button is depressed, or feeds<br>paper in selected channel until next hole is sensed.<br>(Also used to position form to top of page).   |
| INDICATORS,<br>STATUS LINES, AND<br>START-STOP CONTROLS | As required to customer's specs.                                                                                                                             |



**Datamark, Inc.** manufactures an integrated line of medium to high speed printers for data processing, high speed digital communications, listing, and military tactical or check systems.

The company provides printers with and without circuitry and logic such as line buffers, hammer drivers, interfaces, and power supplies.

Datamark, Inc.'s system capability extends to off-line printing and plotting stations consisting of a printer with editing facilities and a magnetic or perforated tape reader data source.

In addition to its standard commercial product line, Datamark, Inc. provides special purpose line printers packaged for restricted space applications encountered aboard ship, aircraft, and in trailer trucks. Because the product line is organized in a modular fashion, the design effort for such "specials" is minimized.

#### **DATAMARK FACILITIES AND CAPABILITIES**

in the design and manufacture of high speed line printers and printer systems are unparalleled in the industry.

Its staff of mechanical, electronic and production engineers have had many years of experience in the peripheral equipment field.

*We invite you to visit our plant in Westbury, Long Island to discuss your printer requirements and see a demonstration or to write to our Sales Manager for further information.*



# **DATAMARK, INC.**

2000 SHAMES DRIVE ■ WESTBURY, L. I., NEW YORK ■ 516 EDGEWOOD 3-8910